



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/091,300

06/16/1998

WOLFGANG VON DEYN

47679

4798

26474

7590

08/20/2012

NOVAK DRUCE DELUCA + QUIGG LLP  
300 NEW JERSEY AVENUE NW  
FIFTH FLOOR  
WASHINGTON, DC 20001

EXAMINER

HAVLIN, ROBERT H

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

08/20/2012

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/091,300	<b>Applicant(s)</b> VON DEYN ET AL.
	<b>Examiner</b> ROBERT HAVLIN	<b>Art Unit</b> 1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2012.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 17,18,21-23,28-31,34-42 and 46-52 is/are pending in the application.
- 4a) Of the above claim(s) 17,18,22,23,31,34,38-42,46,49 and 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21,28-30,35-37,47,48,50 and 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/>Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|--|---|

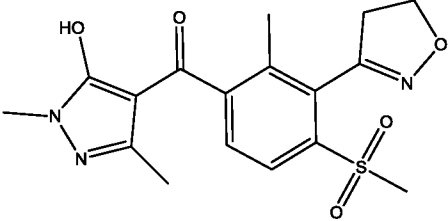
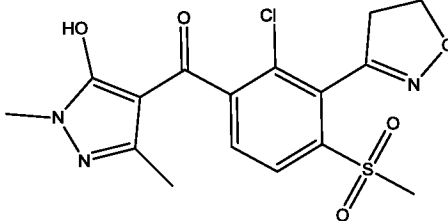
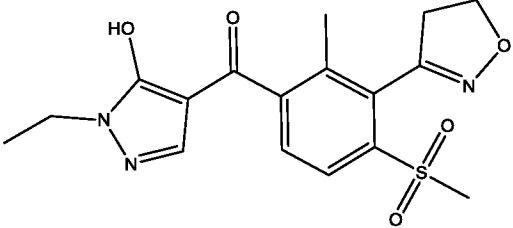
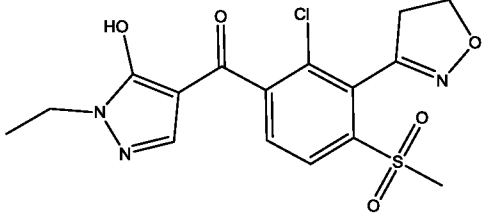
1. Applicant previously elected Group I (claims 18, 20, 21, 28-31, 34-42, and 46-52) and the species of claim 30 having the following structure:

Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection through amendment, the amended Markush-type claim will be reexamined to the extent necessary to determine patentability of the Markush-type claim. See MPEP 803.02.

### **RESPONSE TO APPLICANT REMARKS**

#### ***Claim Rejections – 35 USC 103***

2. Claims 21,28-30,35-37,47,48,50,51 were rejected under 35 U.S.C. 103(a) as being unpatentable over Von Deyn et al. (WO 96/26206 [English equivalent US 5,846,907]) in view of Silverman, R. B. (The Org. Chem. of Drug Design and Drug Action, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

CLAIMED INVENTION	PRIOR ART (von Deyn, comps. 5.4 & 5.5)
	
	

Applicant argues that the prior art does not suggest that the structural modifications necessary to arrive at the claimed compounds would result in compounds exhibiting higher activity while also being less harmful to crop plants. In support of this

Art Unit: 1626

argument, Applicant points to the previously considered Witschel declaration (of Dec. 14, 2011), wherein data investigating herbicidal properties of various compounds was presented – including those of the prior art, within the instant claim scope, and those not in the prior art or within the instant claim scope. Applicant's argument requires a conclusion that the alleged unexpected results outweigh the finding of prima facie obviousness. See MPEP 716.02(c). MPEP § 2144.09 instructs:

A prima facie case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (Affidavit evidence which showed that claimed triethylated compounds possessed anti-inflammatory activity whereas prior art trimethylated compounds did not was sufficient to overcome obviousness rejection based on the homologous relationship between the prior art and claimed compounds.); *In re Wiechert*, 370 F.2d 927, 152 USPQ 247 (CCPA 1967) (a 7-fold improvement of activity over the prior art held sufficient to rebut prima facie obviousness based on close structural similarity).

However, a claimed compound may be obvious because it was suggested by, or structurally similar to, a prior art compound even though a particular benefit of the claimed compound asserted by patentee is not expressly disclosed in the prior art. It is the differences in fact in their respective properties which are determinative of nonobviousness. If the prior art compound does in fact possess a particular benefit, even though the benefit is not recognized in the prior art, applicant's recognition of the benefit is not in itself sufficient to distinguish the claimed compound from the prior art. *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991).

MPEP § 2145 reminds that the presence of secondary considerations does not control the obviousness conclusion:

Evidence pertaining to secondary considerations must be taken into account whenever present; however, it does not necessarily control the obviousness conclusion. See, e.g., *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1372, 82 USPQ2d 1321, 1339 (Fed. Cir. 2007) ("the record establish [ed] such a strong case of obviousness" that allegedly

Art Unit: 1626

unexpectedly superior results were ultimately insufficient to overcome obviousness conclusion); Leapfrog Enterprises Inc. v. Fisher-Price Inc., 485 F.3d 1157, 1162, 82 USPQ2d 1687, 1692 (Fed. Cir. 2007)("given the strength of the prima facie obviousness showing, the evidence on secondary considerations was inadequate to overcome a final conclusion" of obviousness); and Newell Cos., Inc. v. Kenney Mfg. Co., 864 F.2d 757, 768, 9 USPQ2d 1417, 1426 (Fed. Cir. 1988). Office personnel should not evaluate rebuttal evidence for its "knockdown" value against the prima facie case, Piasecki, 745 F.2d at 1473, 223 USPQ at 788, or summarily dismiss it as not compelling or insufficient. If the evidence is deemed insufficient to rebut the prima facie case of obviousness, Office personnel should specifically set forth the facts and reasoning that justify this conclusion. See MPEP § 716 - § 716.10 for a additional information pertaining to the evaluation of rebuttal evidence submitted under 37 CFR 1.132.

MPEP § 2145 (emphasis added).

MPEP § 716.02(b) states that applicant bears the burden of explaining how the data is significant and of practical significance. See MPEP § 716.02(b); "[A]ppellants have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness." Ex parte Ishizaka, 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992); The evidence relied upon should establish "that the differences in results are in fact unexpected and unobvious and of both **statistical and practical significance**." Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992) (emphasis added).

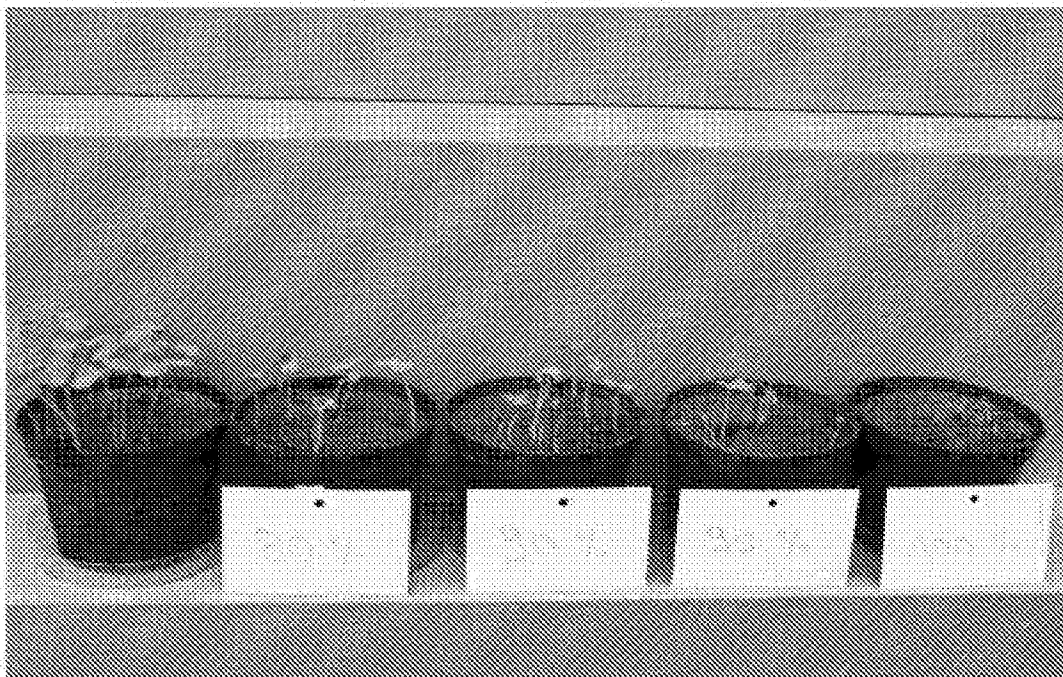
The Examiner has reviewed the data, the declaration, and Applicant's explanation and cannot determine how there is an unexpected result of statistical and practical significance. Based on the disclosure of Von Deyn, the use examples show that the prior art compounds were less harmful to crop plants (Zea Mays (ZEAMX)) while exhibiting high activity against unwanted plants (i.e. 100% against ECHCG,

Art Unit: 1626

SINAL, etc.). Thus, one of ordinary skill in the art would expect such a result in the compounds of the instant claims.

In addition, the proffered data is not of a statistical significance due to the lack of error analysis. Witschel's declaration states that the methodology used to evaluate the experimental results reported is done by comparing reference photographs such as the following:

*Abutilon theophrasti*



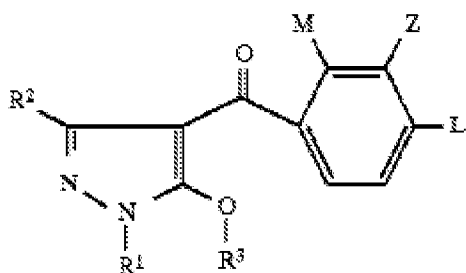
The declaration also states that he did not make any of the observations and uses a “subjective” measure done under his supervision (page 17). One of ordinary skill in the art would know that such subjective measurements are inherently problematic and preclude drawing any scientific conclusions without a proper analysis of the uncertainty in the measurement (See Taylor, “An introduction to error analysis,” 2<sup>nd</sup> ed. (1997), 329 pages, page 5-6, stating that experimental measurements are useless without a proper

Art Unit: 1626

error analysis). Applicant has not provided any associated error analysis with the reported data and thus no reliable conclusion can be drawn from the data. Considering the methodology used to produce the experimental data presented in the tables (such as compound 3.90 vs. prior art 5.5) the uncertainty in the measurements likely exceed the observed differences.

Applicant has failed meet their burden of establishing how the results described in the declarations are indeed unexpected and of practical and statistical significance. See MPEP 716.02(b).

Applicant next argues that Von Deyn when taken alone does not suggest “making the specific molecular modifications which are necessary to arrive at the claimed invention.” Page 7. To the contrary, Von Deyn claims a small genus of compounds where the “M” group includes alternatives of chloro and methyl. Von Deyn teaches a genus of compounds that one of ordinary skill in the art could routinely produce and screen for activity. As shown Von Deyn Table 5 and claim 4 (of ‘907), the prior art directs one of ordinary skill to a small subgenus which includes the instantly claimed invention. Von Deyn teaches a genus of compounds of the formula



where C1-6-alkyl is listed as a preferred alternative

for M (col. 4 of the ‘907 patent), M as methyl is given as a specific example (col. 11), claim 4 lists methyl and chloro as among a few alternatives for M, and Tables 1-5 show



Art Unit: 1626

that nearly all embodiments have M as Chloro or Methyl which shows the interchangeability of the two alternatives. Thus, one of ordinary skill in the art reading von Deyn would expect that modifying the Chloro group of compounds 5.4 and 5.5 to a methyl group would maintain the activity taught by the prior art. In addition, such a modification is within the scope of what von Deyn teaches as being an active compound. Furthermore, Silverman teaches that one of ordinary skill in the art routinely makes such modifications to optimize utility. Thus, one of ordinary skill in the art was sufficiently apprised of the subject matter to practice the instant invention because the compound covered by a small genus and one of ordinary skill in the art would expect herbicidal activity of each of the members. Thus, Von Deyn, alone, does suggest the specific molecular modification.

Applicant also argues that Silverman does not specifically suggest making the modification. However, Silverman teaches what one of ordinary skill in the art knows about the interchangeability of chloro and methyl. Thus, in combination with the teaching of Von Deyn, one of ordinary skill in the art would have a reasonable expectation of success in arriving at the claimed invention.

In conclusion, none of Applicant's arguments are persuasive and the rejection is **maintained**.

3. Claims 21, 28-30, 35-37, 47, 48, 50, 51 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 5,846,907 in view of Silverman, R. B. (The Org. Chem. of Drug Design and Drug Action, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

Applicant does not make arguments different than those considered in the obviousness rejection supra. Therefore, this rejection is also **maintained**.

### ***Conclusion***

The claims are not in condition for allowance. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HAVLIN whose telephone number is (571)272-9066. The examiner can normally be reached on Mon. - Fri., 9:30am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, Joe McKane can be reached at (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Havlin/  
Primary Examiner, Art Unit 1626